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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/496,960	02/03/2000	Michael R. Arneson	1689.0010002	6909

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Sterne Kessler Goldstein & Fox PLLC  
1100 New York Avenue NW  
Suite 600  
Washington, DC 20005-3934

EXAMINER
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MYHRE, JAMES W

ART UNIT	PAPER NUMBER
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3622

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/496,960

Applicant(s)

ARNESON ET AL.

Examiner

James W Myhre

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 1, 2004 has been entered.

### ***Response to Amendment***

2. The amendment filed on March 1, 2004 has been considered but is ineffective to overcome the Guthrie et al (5,289,372), Kaplan et al (3,689,885), and Walter et al (5,856,788) references.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-14, 17, 19-32, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al (5,289,372).

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Claims 1 and 19: Guthrie discloses a system and method for conducting an inventory of items with attached tags, comprising:

- a. Selecting a remote sensor (collector) to poll a plurality of tags (sensors) within the collector's physical area of control;
- b. Receiving and storing information from the polled tags;
- c. Repeating the polling by other collectors in the system; and
- d. Processing the received polling information to determine the inventory status of the system (col 3, line 50 - col 4, line 55).

Guthrie also discloses that wireless inventory systems are known but that using wireless (RF) transmissions for communicating between the tags and the collector such as in Caswell (4,636,950) is "not suitable for Federal Government facilities"..."and where secrecy considerations are required" (col 3, lines 15-44). While Guthrie uses wired connections to link the tags and the collector in his invention, his disclosure that wireless transmission means are also used in other systems to communicate between the tags and collector teaches and would have rendered it obvious to one having ordinary skill in the art at the time the invention was made that wireless connections could also be used if, as Guthrie implies, secrecy requirements were not a concern. One would have been motivated to use wireless transmissions to poll the tags in Guthrie in order to enable the invention to be used for inventorying non-electric or mobile items such as items in a storeroom.

Claims 2 and 20: Guthrie discloses a system and method for conducting an inventory of items as in Claims 1 and 19 above, and further discloses the polling information comprises at least one tag ID (col 3, line 50 - col 4, line 55). The Examiner notes that a tag ID is comprised of a plurality of bits.

Claims 3 and 21: Guthrie discloses a system and method for conducting an inventory of items as in Claims 2 and 20 above, and further discloses repeating the steps (col 3, line 50 - col 4, line 55 and col 10, lines 52-57).

Claims 4 and 22: Guthrie discloses a system and method for conducting an inventory of items as in Claims 3 and 21 above, and further discloses storing information of tags which failed to respond (missing from inventory)(col 13, lines 56-68 and col 21, line 62 - col 22, line 17).

Claims 5 and 23: Guthrie discloses a system and method for conducting an inventory of items as in Claims 4 and 22 above, and further discloses initiating a security measure upon detection that a collector or tag does not respond (is missing)(col 13, lines 56-68 and col 21, line 62 - col 22, line 17). Guthrie discloses sending maintenance personnel to fix a non-responsive collector, but does not explicitly disclose sending the same maintenance personnel if a tag is non-responsive. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to also send the maintenance personnel to fix non-functioning tags also. One would have been motivated to do this in view of Guthrie's disclosure that information about such non-responsive tags is being stored in the database.

Claims 6, 7, 24, and 25: Guthrie discloses a system and method for conducting an inventory of items as in Claims 5 and 23 above, but does not explicitly disclose that the security action taken when a "missing" item is detected consists of turning on a surveillance camera or activating a silent alarm. Guthrie discloses that a maintenance person is dispatched to the "nonresponsive" collector (col 13, lines 56-68) or information about a non-responsive tag is entered in the Disconnect Table (col 14, lines 55-68 and col 21, line 62 - col 22, line 17). While this may be an appropriate response when applied to Guthrie's example system that is tracking the equipment in a widely distributed computer system, it would have been obvious to one having ordinary skill in the art at the time the invention was made to turn on a surveillance camera, activate an alarm (whether silent or not), or take other security measures such as locking all egresses into and out of the area concerned. These are all well known types of measures taken by the security industry when a security abnormality is detected. For example, Automatic Teller Machines (ATMs) have been in widespread use throughout the world for many years. These financial transaction machines use surveillance cameras to record an image of the person conducting the financial transaction on the ATM. However, in order to reduce the amount of memory needed to store the images the camera is not kept running constantly, but is only activated when the system detects the presence of a user. Many of the ATMs will also automatically transmit an alarm signal to the local security agency or police department when an inappropriate transaction situation is detected (such as coercion of a user by another). The type of security action taken would depend upon the type of items being monitored. While in

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most computer systems Guthrie's sending of maintenance personnel may be appropriate such as when a malfunction of the ATM is detected, if the computer system was a highly sensitive classified system used by an intelligence organization or the military, it would be more appropriate to turn on a surveillance camera or to activate a silent alarm instead of sending maintenance (or security) personnel in order to verify the reason for the non-responsiveness of the item and to determine the appropriate response (i.e. sending maintenance personnel if the item is seen to be present or sending security personnel if the item is seen to be missing from its usual place or unauthorized personnel are present).

Claims 8 and 26: Guthrie discloses a system and method for conducting an inventory of items as in Claims 2 and 20 above, and further discloses correlating the information received from each tag to maintain data regarding the location of each tag (col 3, line 50 - col 4, line 55).

Claims 9 and 27: Guthrie discloses a system and method for conducting an inventory of items as in Claims 1 and 19 above, and further discloses that the information is from a tag within the collector's coverage pattern (col 3, line 50 - col 4, line 55).

Claims 10-14 and 28-32: Guthrie discloses a system and method for conducting an inventory of items as in Claims 9 and 27 above, but does not explicitly disclose that the sensor information indicates tag movement, tag vibration, tag temperature, or a security breach comprising one of these parameters. Official Notice is taken that it is old and well known in the security arts to use motion, vibration, and/or temperature

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sensors to detect theft, abuse, or failure of an item. These types of sensors are used in many areas, such as car alarms (motion and vibration); factories, buildings heating/cooling systems, nuclear power plants (temperature); etc. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to monitor movement, vibration, and/or temperature fluctuation of the tagged item. One would have been motivated to monitor these types of elements in order to better determine when an exception status has occurred so the appropriate response could be initiated.

Claims 17 and 35: Guthrie discloses a system and method for conducting an inventory of items as in Claims 1 and 19 above, but does not explicitly disclose that the tag reader is a PCMCIA card. The Examiner notes that a PCMCIA card is the common standard used on PC card-based peripherals on portable (and personal) computers throughout the industry and is also the standard name for PC cards which were first introduced in June 1990. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a PCMCIA card to read the tags. One would have been motivated to use a PCMCIA card in view of its standard usage for such applications throughout the industry.

5. Claims 15, 18, 33, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al (5,289,372) in view of Kaplan et al (3,689,885).

Claims 15, 18, 33, and 36: Guthrie discloses a system and method for conducting an inventory of items as in Claims 1 and 19 above, but does not explicitly



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disclose that the tags are connected to the collector through an electrical power distribution system nor attached to an electrical light fixture. Kaplan discloses a similar system and method for polling tags in which the nodes are connected through an electrical power distribution system (Figure 5A, item 172 and col 9, lines 39-62). While Kaplan does not explicitly disclose connecting to the electrical power distribution system through an electrical lighting fixture, Official Notice is taken that it is old and well known in the electrical arts that items can be connected to an electrical system by direct wiring, outlet plugs, or through light fixtures (the Examiner has used a motion sensor integrated into a light fixture to activate outdoor lighting on his house for years). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the collectors, tags, and other system components through an electrical power distribution system and to use one or more of the usual electrical connection modes to include an electrical lighting fixture. One would have been motivated to connect to such a system in such a manner in order to provide a constant supply of power without needing to replace batteries constantly.

6. Claims 16, 34, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al (5,289,372) in view of Walter (5,856,788).

Claims 16, 34, 37 and 38: Guthrie discloses a method and system for conducting an inventory of items as in Claims 1 and 19 above, but does not explicitly disclose the time slot contention is resolved by the tag sending a first plurality of bits of its ID number during a first read and a second plurality of bits during a second read. Walter discloses

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a similar method and system for wirelessly interrogating identification tags in which each tag transmits a first bit of its identification number during a first read and then subsequent bits during subsequent reads if there was time slot contention during the previous read (col 5, lines 1-50). While it is not explicitly disclosed that a plurality of bits are read each time, it would have been obvious to one having ordinary skill in the art at the time the invention was made that in order to use different parts of the identification number for multiple reads, the identification number could be divided into subsets containing any number of bits from only one bit as Walter discloses to any number less than the total number of bits. One would have been motivated to use a plurality of bits in order to decrease the time it takes to identify a plurality of items when the identification number consists of a large number of bits. For example, if the identification numbers of 100 items each contains 88 bits, it would take approximately 8,800 reads to identify all 100 items reading one bit at a time. If 4 bits (one byte) at a time were read, it would only take approximately 1,100 reads to identify all 100 items, thus realizing an 8-fold decrease in processing time. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use such a bitwise interrogation (using a plurality of bits per read) of the tags in Guthrie to resolve time slot contention. One would have been motivated to use bitwise interrogation in view of Guthrie's disclosure of reading in eight bits of the tag ID at a time until all 26 bits have been received (col 10, lines 5-25).

***Response to Arguments***

7. Applicant's arguments filed March 1, 2004 have been fully considered but they are not persuasive.

A. The Applicant argues that Guthrie does not disclose "a coverage pattern that defines a physical area containing a plurality of items with their associated tags" (pages 14-15). The Examiner notes that Guthrie has a plurality of collectors, each of which has a certain number of assigned tags for which it is responsible to poll (inventory). Guthrie uses an example of where "Collectors 19 are located in each room of a multi-room building, for example, and every sensor 18 in a room connects to this collector 19" (col 8, lines 6-8). In other words, each collector only polls the sensor located within its room - - its "coverage pattern". Guthrie further discloses that each building (of a plurality of buildings) has at least one concentrator which receives the data from each of the collectors within its building and forwards the data to the central computer (col 8, lines 44-64). Hence, each concentrator also has its own "coverage pattern". The Examiner also notes that in wireless systems it is inherent that the collector would have a finite coverage area based on the power of its (and the tags') transceiver, such as discussed by Walter. Therefore, whether wired (which strictly limits its coverage pattern) or wireless (in which its coverage pattern is limited by the power of the transceivers), Guthrie's collectors would all have assigned coverage patterns.

B. Applicant argues in reference to Claims 1 and 19 that Guthrie does not disclose "conducting a **wireless** inventory of items" and that Guthrie teaches away from a "method and system for conducting a *wireless* inventory" (pages 15-16). The

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Examiner notes that as discussed in the rejection above, while Guthrie uses a wired system as an exemplary embodiment of his invention, he also discloses that other systems use wireless RF transmissions when security is not an issue. Thus, the reference explicitly teaches that an inventory monitoring system may be **either** wired or wireless. When a reference discloses a plurality of known methods and then uses one of the methods which the inventor prefers over the other, the reference does not “teach away” from the unpreferred method, but rather shows that there is a plurality of known methods from which one may choose. In *Celeritas Technologies Ltd. v. Rockwell International Corp.* 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998), the court held that “The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it was disclosed”. Likewise, *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971) stated that “Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments”. The Examiner also notes in response to the “inventory” argument that Guthrie explicitly discloses that the tag readings are used to determine if any of the items have been moved or are no longer detectable by the collector, i.e. missing. Once the collector has completed its polling of the sensors within its area of responsibility it responds to the central computer with a report of “good health” or with the detected changes (col 10, lines 15-40). Thus, by determining which items have been moved or are no longer detectable, Guthrie is “inventorying” the items. He determines that an item is missing from the “inventory” by detecting upon receipt of the

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tag ID numbers that a Tag ID number contains all zeros, which means no response was received from that tag.

C. The Applicant argues in reference to Claims 16 and 34 that the Examiner has not established *prima facie* obviousness because "all the words in the claims must be considered" (page 18). The Examiner notes that while the Applicant is free to express the claim in as many words as he wishes, it is the steps of the claims which are being examined, not the terminology used by the Applicant. Whether the device that receives the identification number from the tag is called a tag reader (Applicant) or collector (Guthrie), it is still a device which performs the same function. In these claims the tag reader transmits a wake-up signal and a timer signal; each tag receives the timer signal and responds with its tag ID; the reader receives the responses from the tags, increments a data store (first reader count) when there is a time slot contention, and transmits a second timer signal along with the first reader count; each responding tag receives the second signal and transmits a second number back to the reader. In Guthrie the collector (reader) transmits a wake-up signal (initial GETS ID call) along with a software timer signal; each tag receives the signals and responds with the first eight bits of data from its tag ID; the collector receives and stores this data (first reader count) then requests the next bit(s) from each tag and repeats the process until all 26 bits of each sensor ID number is read. Thus, Guthrie not only discloses all the components used in the present Claims 16 and 34 (but with different names), but also discloses the transmitting, receipt, storage, and comparison steps of the claimed method. In view of the addition of the feature of a second plurality of bits being transmitted to these claims,

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Claims 16 and 34 have presented been rejected together with Claims 37 and 38 in which this feature was previously rejected.

### ***Conclusion***

8. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exr. James W. Myhre whose telephone number is (703)

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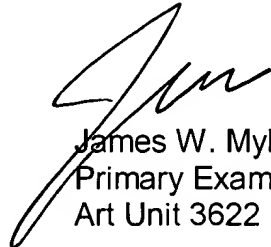
308-7843. The examiner can normally be reached on weekdays from 6:30 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber, can be reached on (703) 305-8469. The fax phone number for Formal and Official faxes is (703) 872-9306. Draft or Informal faxes may be submitted directly to the examiner at (703) 746-5544.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 308-1113.

  
JWM

April 21, 2004

  
James W. Myhre  
Primary Examiner  
Art Unit 3622